# Ferrybridge

## CCPilot100+ post-combustion carbon capture

CCPilot100+ is a fast-track collaboration between Doosan Power Systems (DPS) as a leading plant and capture technology supplier, SSE and Vattenfall as potential users of post-combustion capture, and four UK universities at the forefront of carbon capture research.

Designed, built and commissioned within a relatively short timescale, the plant will undergo an extensive two-year test programme to facilitate a full understanding of how the technology performs under normal operating conditions, with particular reference to flexibility, amine degradation and materials.

This groundbreaking project bridges the gap from research to the commercialisation of carbon capture technology, both for new build power plants and for retrofit to existing facilities. It is the UK's biggest pilot and one of the largest in the world, providing an important showcase for DPS' carbon capture technology to customers and partners globally.

### FEATURES OF PROJECT

Contract award: January 2010

Project type: Post-combustion carbon capture

Project value: £21 million

Project funding: SSE, Doosan Power Systems, Vattenfall, Department of Energy and Climate Change (DECC), The Technology and Strategy Board (TSB) and Northern Way

Programme: Fast track EPC followed by two-year test phase

### SCOPE OF PROJECT

Design, build and commissioning of a post-combustion carbon capture plant capturing 100 tonnes of carbon dioxide per day from the equivalent of 5MWe (14MWth) of coal fired generating capacity.

### ACHIEVEMENT AND RESULTS

- A critical bridge from research to commercialisation for carbon capture technology
- Successful completion of Europe's largest carbon capture plant operating on a coal fire plant
- Wide academic involvement, through one month secondments, industrial awareness modules, one day trips and a five day short course on CCS for a large number of academics from four UK universities

# Doosan Power Systems
enabling energy

PROJECT PROFILE
**FERRYBRIDGE, UK**

## KEY PROJECT DATA

| | |
|---|---|
| **Main project partners** | SSE, Doosan Power Systems, Vattenfall, TSB, DECC, Yorkshire Forward |
| **Location of power station** | Ferrybridge, UK |
| **Carbon capture technology** | Post combustion |
| **Main fuels** | UK & international coal and biomass |
| **Award date** | January 2010 |
| **Completion of test programme** | December 2013 |
| **Project time cycle** | FNTP to commissioning <24 months |
| **Capture rate** | 90% of $CO_2$ in slipstream |
| **Capture size** | ≈ 100tpd |
| **Slipstream equivalent size** | 5MWe, 14MWth |
| **$CO_2$ absorber (i.dia x height; m)** | 2.3 x 39 |
| **$CO_2$ absorber weight** | 40 tonnes |
| **Stripper column (i.dia x height; m)** | 1.1 x 30.5 |
| **Scrub type** | Amine |
| **Test programme** | 2 years extensive test programme |

## CUSTOMER BENEFITS

- Involvement in the development of leading edge clean energy technology
- A knowledgeable buyer of commercial scale CCS plant
- Puts SSE at the forefront of wider commercial scale deployment of CCS by reducing uncertainty, driving down costs and developing the UK supply chain and skills
- Involved in a key project to establish when and how carbon capture technology will be developed.
- Provides a viable solution to meet the growing demand for energy whilst also reducing carbon dioxide emissions


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